DOCUMENT RESUME

ED 215 854 RC 013 361

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TITLE	Potential Effects of the Overburden Argument on the Funding of Rural Schools. Interim Report to the New York State Special Task Force on Equity and Excellence in Education.
INSTITUTION	New York State Special Task Force on Equity and Excellence in Education.
SPONS AGENCY	New York State Executive Office, Albany.
PUB DATE	Feb 81
NOTE	86p.; For related document, see RC 013 362.
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Costs; Court Litigation; Definitions; Educational Finance; Elementary Secondary Education; Equalization Aid; Equal Protection; *Financial Support; History; Policy; *Resource Allocation; *Rural Schools; Rural Urban Differences; Small Schools; *State Aid; *State School District Relationship; Student Transportation
IDENTIFIERS	Economies of Scale; Isolation (School Districts); Levittown v Nyquist; *New York; *Small School Districts; Sparsity (Population)

ABSTRACT

Designed to serve as an introduction to research currently being conducted on behalf of the Task Force into implications for rural schools of the Levittown decision, the primary purpose of this report is to provide background information and to provoke discussion about fiscal problems in rural areas. Two sections provide historical as well as legal perspectives on the state's responsibility for delivering educational services in rural areas. Historical analysis gives an overview of how the state has responded in the past and provides insight into the current nature of the state's involvement. Section III draws heavily on the Levittown decision and shows that a concern for problems that exist perhaps uniquely in rural schools is entirely consistent with the holding of the court. Section IV addresses whether there are costs peculiar to operating schools in rural areas and presents results of early attempts to document existence of these costs. The report concludes with a discussion of policy implications. Definitions for rural schools are proposed as well as a series of policies which might be recommended by the Task Force as a means of more completely fulfilling the state's responsibility to students and taxpayers in rural areas of the state. (BRR)

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ED215854

Potential Effects of the Overburden Argument on the Funding of Rural Schools

Interim Report to the
New York State Special Task Force on Equity and Excellence in Education

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February 1981

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Section I: Introduction

This interim report has been prepared for the February 4, 1981, meeting of the New York State Task Force on Equity and Excellence in Education. It is designed to serve as an introduction to the research currently being conducted on behalf of the Task Force into the implications of the Levittown decision for rural schools. The primary purpose of the report is to provide background information and to provoke discussion about fiscal problems in rural areas.

The report is divided into four major sections. Sections II and III provide historical as well as legal perspectives on the state's responsibility for delivering educational services in rural areas. The historical analysis gives an overview of how the state has responded in the past and provides insight into the current nature of the state's involvement.

The legal analysis we present in Section III draws heavily on the Levittown decision and shows that a concern for the problems that exist perhaps uniquely in rural schools is entirely consistent with the holding of the court. This section also presents a list of questions the Levittown decision poses for rural districts. This list of questions has served as the basis for our research agenda.

In Section IV we take up the question of whether there are costs peculiar to operating schools in rural areas and present the results of our early attempts to document the existence of these costs. The report concludes with a lengthy discussion of policy implications. Here we propose a series

of definitions for rural schools as well as a series of policies which might be recommended by the Task Force as a means of more completely fulfilling the state's responsibility to the students and taxpayers in rural areas of the state.

Section II: Historical Perspective

In the period from 1924 to 1960, New York's rural schools were a focus of attention for both policy makers and students of school governance. The State Education Department, operating under terms of the "Master Plan for School District Reorganization in New York State"[1] encouraged formation of central school districts.[2]

Other significant steps were taken to improve the efficiency, educational quality and economic health of rural schools. From 1914 on, district superintendents[3] were chosen by school trustees in each area and worked as state officers to strengthen common schools and to assist in the work of centralizing districts. Another state assistance to rural schools was a size correction factor incorporated in the state aid formulas to help districts with small populations. A size correction factor to compensate for sparsity was included in state aid formulas from 1935 to 1974. This factor was changed over time. In 1962, for instance, legislation provided that the state would share in $50 additional operating costs beyond the $500 ceiling for the first 1250 pupils. As operating aid rose in succeeding years, the amount of the sparsity correction rose. From 1966 on, as cities and suburbs demanded help, a density factor was added to assist districts with more than 8000 pupils and the big six cities. The sparsity factor was eliminated in 1974 on the recommendation of a special task force appointed by the governor. It was argued that the number of special aid formulas, including sparsity, had an uneven effect on school districts in ways that created inequalities. It was also claimed that sparsity aid was a dis-incentive to reorganization of districts. This aid persisted from 1935 to 1974.

The period between 1924 and 1957 witnessed a dramatic growth in consolidation of smaller schools into larger units. Armed with successive state aid formulas which made consolidation financially attractive, the State Education Department, with the general approval of the legislative and executive branches of state government, strongly pushed reorganization for sparsely settled and small school districts. It was argued that larger school units could benefit taxpayers by gaining economies of scale in operation and would benefit pupils and parents through better staffing and a broader curriculum. 502 central (consolidated) districts were created in this 23 year period. These new districts incorporated a total of 7012 smaller and previously independent districts.

Modifications in reorganization were made over time with changes in the State Master Plan enacted into legislation. Provisions to enable central districts to consolidate with each other and to permit the smaller cities to merge with surrounding small districts were implemented.

Starting about 1950, intermediate school districts termed Boards of Cooperative Educational Service[4] were organized in each region of the state. Designed to offer instructional programs in such field as vocational and special education and to provide supervisory and administrative services, the BOCES were of considerable help to rural schools. The combination of an enlarged ditrict with an intermediate service unit enabled many rural schools to obtain educational benefits otherwise unavailable to them.

Accompanying the reorganization and BOCES movements was a concentration of intellectual interest in the needs and nature of rural schools. A number of studies were done, chiefly in the area of reorganization. Statistics on rural schools were compiled and updated; writing on this subject was extensive. Both national and state organizations of administrators and scholars paid attention to this sector of the public school movement.

The last twenty years has been a very different period for rural education. Reorganization slowed substantially in pace. Only 49 centralizations or other mergers took place between 1957 and 1970. During this period a number of proposed consolidations were voted down or not brought to a final vote. The mood of the period seemed to favor smallness and simplicity in both organizations and life style. Many expressed the feeling that reorganization would result in higher taxes despite claims to the contrary. A number of adjoining districts believed that it would be unrewarding to merge into units which would be geographically large and yet remain too small in population to make major educational and economic advances.

The BOCES movement, too, has lost some of the promise of its earlier period. While the individual BOCES have undoubtedly helped small schools, they are limited in what they can do, increasingly costly and sometimes find it difficult to strike a balance between the claims of their rural, suburban and small city clients.

Accompanying the slowing down of reorganization has been a diminished interest in rural/small schools on the part of policy makers and scholars. The crises facing the large cities have demanded the attention of both groups. The case for help for the cities was strengthened by the argument in the Levittown decision stressing the overburdens imposed on cities by their educational and other municipal costs. Also shifting attention from rural educational problems was the plight of suburban communities facing rapidly rising school enrollments. The suburbs had the political power to demand attention at the state level.

For the last twenty years rural schools have been either neglected or treated lightly in public planning and the attention of the scholarly

community. Though board members and administrators in rural districts knew much about problems resulting from sparsity and smallness, these problems were not central to the interests of public officials and social scientists absorbed in the urban and suburban scenes. Consequently, rural schools suffered from neglect in policy making and an underconceptualization of their needs and problems.

In the recent past, the smaller and sparsity-impacted school districts of New York have, when put to the test, chosen to forego the aid incentives offered by the state for reorganizing. They have in effect accepted the direct costs associated with smallness. Thus many rural districts have been affected adversely by rising property values coupled with low income, rising costs generally, declining enrollments, and extra burdens placed on both taxpayers and pupils.[6]

Reorganization is advocated by the State Education Department as a solution to some of the problems of small and sparse districts. There has been relatively little reorganization of a substantial sort in the 1970-80 period.[7] While the costs and burdens of smallness and sparsity may encourage rural districts to seek reorganization in the future, there is no significant movement in this direction at present.

In light of this history, the arrival of the Levittown decision in 1974 takes on an added significance for the rural districts of the state. The decision is rich in implications for the analysis of the proper role for the state to assume regarding the financing and organization of educational services. It is therefore essential for us to examine the decision in terms of its implications for rural district. Section III provides this analysis and in so doing establishes our research agenda.

Section III: Legal Perspective

The arena of school finance reform has substantially shifted from state legislatures to state courts. In 1974 the United States Supreme Court rejected an attempt at nationwide reform claiming among other things that education was not mentioned in the Federal Constitution and was not a fundamental right deserving strict judicial scrutiny at the Federal level.[8] Education, however, is a right specifically mentioned in many state constitutions. School finance litigation has, since 1974 moved from Federal to state courts with arguments targeted to particular state constitutions, judicial histories, and educational funding systems. Such cases have succeeded in several states including California, New Jersey, Washington and Connecticut. Such a case has also succeeded in New York in the Supreme Court of Nassau County.

In Levittown vs Nyquist Judge L. Kingsley Smith outlined a set of objections to New York's system of school finance assigning responsibility to the state legislature to design a remedy for these deficiencies. While Judge Smith's opinion is under appeal, it currently provides the best guide to the judicial standards which may be applied by New York courts in judging the legal adequacy of arrangements for funding New York's public schools. It is incumbent on those interested in rural schools to understand how this might affect the financing of rural schools.

Judge Smith's opinion includes one novelty which raises special concern for rural schools. The "standard argument" designed to show that a state's funding arrangement offends the equal protection clause of the state or

Federal constitution proceeds by attacking the use of a local tax base as the source of revenue for financing schools. Poor districts must expend substantial effort to raise modest sums for education. Wealthy districts can often raise significantly higher dollar sums per pupil with substantially less tax effort. The results are that poor districts are less able to raise funds for education than wealthy districts and that poor districts usually spend less per pupil than wealthy districts. These inequities are not overcome by existing state equalization formulas.

Judge Smith adds to this argument what have been termed the urban overburden arguments. Pointing to such factors as competing demands for tax dollars, higher educational costs, and larger concentrations of disadvantaged or otherwise needy students, Judge Smith argues that simply looking at taxable property per pupil may misrepresent the actual capacity of large urban areas to support public schools. Judge Smith thus insists that factors beyond taxable property per pupil be considered in judging fiscal capacity.

Urban overburden arguments raise some concerns and questions about rural schools. The obvious concern is that special judicial attention to urban problems might not unfairly disadvantage rural districts in their competition for the educational dollar. Perhaps there are "rural overburdens," factors unique to rural districts which should also be considered in establishing an equitable financial arrangement for New York's public schools. These issues suggest a need to review the specific objections to New York's funding arrangements for public schools. We must then attempt to state the legal or philosophical principles underlining these objections. Finally, we must ask whether there are rural instances of these principles which correspond to the urban instances on which Levittown vs Nyquist relies.

Judge Smith's opinion expresses a set of objections to New York's system for funding public schools which can be summarized as follows:

1. New York's system of financing public education which relies on real property taxes in conjunction with state aid discriminates against property poor districts in that such districts, despite the fact that they often impose sharply higher tax rates, are not able to generate the spending levels generated by wealthy districts with lower tax rates. The court also notes that the State's attempts to use state funds to overcome differences in property wealth between districts generally fails to do so. It is particularly critical of the distribution of flat grants to high wealthy districts and the use of "save harmless" provisions which have the consequences of undermining attempts to equalize educational expenditures.

2. New York's system of financing public education discriminates against large urban districts in that it lacks an adequate measure of fiscal capacity. Fiscal capacity is currently measured as taxable property per pupil. This measure is held to overestimate the ability of large urban districts to finance public education because it fails to consider the "overburden" of the urban tax dollar. The court reports the following urban overburdens: Large urban areas must support more non-educational services than non-urban areas; equivalent educational inputs or services cost more in urban than in non-urban districts; the use of average weighted daily attendance to compute state aid discriminates against urban areas which commonly have high rates of absenteeism; urban areas receive unfavorable funding for handicapped children when compared with that provided through BOCES: and urban areas have large numbers of handicapped and disadvantaged students and other students with special needs for which they are not adequately compensated. These factors mean that taxable dollars per pupil will be significantly misleading concerning the capacity of

urban districts to finance education. An adequate funding system thus will require a concept of fiscal capacity more sensitive to the actual ability of a district to finance an appropriate education for its children.

3. New York's system of financing public education violates the education clause of the State Constitution in that the failure to adequately fund large urban school districts with large concentrations of students deficient in basic educational skills leads to the failure to provide every child an education appropriate to his needs and to the failure to provide an equal opportunity for all students to acquire basic minimal skills necessary to function in a democratic society.

These criticisms of New York's funding system for public education suggest some criteria which specify what would count as an adequate funding system. These criteria can be expressed in three points where the second and third represent interpretation of or qualification on the first.

1. The ability of a district to support public education must be independent of the value of real property in the district. The intuitive idea is that property poor districts should be able to support a level of inputs and services equivalent to that which property rich districts are able to support with an equivalent effort independent of the actual value of real property in the district.

2. The measure of a district ability to support public education (its fiscal capacity) must be a realistic measure of the actual ability of the district to generate revenue necessary to support an appropriate level of educational inputs and services. The measure of fiscal capacity must, therefore, be sensitive to (a) the ability of a district to generate revenue, (b) the non-educational services competing for the tax dollar, (c) differences

in district needs, (d) variations in cost of appropriate services and inputs, and (e) variation in the relation between attendance and enrollment.

3. Every district must be capable of funding an education which is appropriate to every child's needs and which provides every child an equal opportunity to participate in a democratic society.

Some general comments on these criteria are called for. First, criterion number 1 states the philosophical presumption which lies behind percentage equalization. Percentage equalization requires a state's educational funds to be distributed in such a way that any two districts will generate equal per pupil expenditures with an equivalent tax rate independent of the property wealth of the district. A property rich and a property poor district should be able to generate equal per pupil expenditures. Two assumptions seem to underlie percentage equalization. The first is that it is impermissable for educational expenditures to vary because of variations in property wealth. The second is that variations in expenditures which reflect differences in preferences for education between districts are permissable. Equity does not, therefore, require that all districts spend at equivalent levels. It requires that expenditure levels reflect preferences for education, not differing constraints on the ability of districts to raise funds. The notion that equal effort should generate equal results independent of taxable property per pupil captures these assumptions.

The second criterion, however, prevents the standard formulation of percentage equalization from being acceptable. Percentage equalization expresses the concept of equal results as per pupil expenditure and the capacity of a district to support education as taxable property per pupil. The court, however, while appearing to accent the philosophical assumption of

percentage equalization, rejects these measures as adequate measures of a districts actual ability to fund an appropriate level of educational inputs and services. Criteria number 1 and 2 in conjunction can, however, be understood as requiring the substance of percentage equalization, but with a modified and more sophisticated view of what is to count as a district's fiscal capacity.

The final criterion, however, can be seen as a modification of the basic philosophy in that it appears to place a limit on the degree to which expenditures can vary according to preferences as well as capacity. The court here can be understood as holding that the state is obliged to see to it that every child has an education appropriate to his needs and has an equal opportunity to a basic education. These sentiments may require more than that equivalent effort generate equivalent results. They may set limits to the extent to which educational services may vary with preferences. Weakly interpreted they may require that the state guarantee a level of funding adequate to support a basic education for every child. Strongly interpreted, they may require functional equivalence in every child's basic education permitting preferences to affect the nature or quality of educational services and inputs only when they are deemed inessential to a basic education.

We now need to ask what sorts of issues these criteria generate for rural schools.

These criteria raise issues beyond the urban context. While most of the issues raised by Levittown address the particular needs of urban schools, when the concepts of equity they presuppose are stated in a more general form, they suggest that there may be other issues which are raised for non-urban districts. The following are some of the issues which these criteria raise for rural schools.

Criterion I: The question raised here concerns the characteristics and fairness of the rural tax base. Do rural districts tend to be property rich or property poor? Is there significant variation among rural districts? Should the character of property in a district be part of the definition of 'rural?' Is property in rural districts fairly and accurately assessed?

Criterion II: Attempting to judge the fiscal capacity of rural districts raises significant issues. Rural areas may not have concentration of minorities or needy students to the extent that urban districts do. They do, however, have other characteristics which are relevant to judging their fiscal capacity. Some of the particular issues are:

1. Is the property base of rural districts a fair and accurate ground for judging the ability of rural districts to raise revenues. Many rural people believe that property values in rural areas give an inflated estimate of the ability of rural populations to support schools in that the disposable income of rural populations is lower in relation to the tax base than is the case for other districts. If that is the case would income be a better measure of ability to pay than property for rural districts?

2. Do rural students have any special needs by virture of their being rural? For example, are there special programs needed to overcome the cultural isolation of rural students or do rural students need special occupational programs or career guidance? How should such needs be considered in judging the fiscal capacity of rural districts? Also, are the special needs of rural students underconceptualized or underrecognized as a consequence of recent intensive public concern with the problems of urban education? Is there a danger that a measure of fiscal capacity which is attentive to urban problems will punish rural areas for their lack of visiability? Finally, is there a

tendency for students in rural districts with special needs to be unidentified? For example, is a student with a handicap or learning disability more likely to be identified in a urban district than a rural one?

3. Are there costs which are peculiar to rural districts? Rural districts typically have fewer students and are sparsely populated. They may, therefore, be unable to take advantage of economies of scale and may face higher unit costs. High unit costs may also have prevented rural schools from offering program diversity. Moreover, rural schools may be in a particularly weak position to manage declining enrollments. And transportation costs may be significantly higher for rural schools. How are such cost factors associated with scale and sparsity to be incorporated into a judgment of a district's fiscal capacity?

4. Rural schools may absorb higher per unit costs in hidden ways. They may, for example, require more work from their staff, rely more heavily on volunteers, or exact more time from their students. It seems unfair to punish rural districts for a willingness to absorb higher per unit costs in the form of extra personal effort. How, then are such factors to be incorporated into a judgment of fiscal capacity?

5. Rural tax dollars may have to support fewer non-educational services than urban tax dollars. This may, in part, be a result of a preference on the part of rural populations to provide some kinds of services through private rather than public means. Rural populations, for example, may have transportation needs which equal or exceed those of urban areas. They are, however, more likely to provide for these needs privately. The question is then raised as to the relevance of whether a service is provided publicly or privately to the judgment of a district's fiscal capacity. Public services may compete

for tax dollars, but private services compete for the individuals' dollars and affect the willingness of individuals to pay taxes.

Criterion III: This criterion raises the general question of the meaning of a basic education and whether the meaning of a basic education might not vary according to the type of district. There is also a need to know how well rural districts do in teaching basic skills. Two questions are of particular interest.

1. High failure rates in rural districts point to a need for support for higher levels of inputs and services. If such services are to be equitably funded, it is, however, important to be able to distinguish between funding the legitimate educational needs of a district and rewarding a district for its failure to teach basic skills. An equitable meeting of the needs of students who are currently failing on basic skills, thus, requires knowledge of the general connection between levels of funding and levels of attainment, an analysis of the kinds of programs needed for failing sutdents, and the ability to determine when failure reflects lack of resources rather than failure to use resources wisely. These questions need to be put in both rural and urban contexts.

2. There is also a question as to whether a funding system which gives special status to basic skills or a basic education may be prejudicial to the special needs of rural populations. It is not clear how rural districts compare to urban districts in providing a basic education. It is clear, however, that rural schools have been disadvantaged in comparison to urban areas in their capacity to fund diversity in their programs. This is largely a function of scale. It is a problem which may become acute with declining enrollments. BOCES mitigates this concern for some kinds of student needs, but not all.

Thus, in addition to a district's ability to support basic education, some consideration to its ability to support program diversity needs to be given in judging fiscal capacity and a proper and equitable level of funding.

Section IV: Early Findings

This section presents our major empirical findings to date. As will become apparent, we have focused our attention on the question raised in Section III regarding the alleged existence of costs that are peculiar to operating rural schools. If there are costs associated with ruralness we should be able to demonstrate independent relationships between characteristics commonly found in rural areas and the behavior of persons concerned with the operation of schools. For the purpose of this report we focus our attention on relationships between the presence of rural characteristics and resource allocation practices. Readers interested in a more complete analysis of why the characteristics we identify are hypothesized to affect resource allocation practice are referred elsewhere.[9]

The discussion begins with analysis of how such district characteristics as scale of operation and sparsity affect the spending levels of school districts. Next, attention turns to the impact of these factors on how districts allocate funds across budget categories. Here we give explicit attention to the effects of scale and sparsity on spending for transportation and BOCES services.

In light of the tendency for small and sparse districts to make heavy use of BOCES services, we have looked into the operation of the BOCES system in some depth. Specifically, we consider whether isolation within a BOCES exerts an independent effect on the degree to which districts participate in their BOCES as well as the degree to which BOCES vary among themselves. In other words, we recognize that the nature of a given level of participation in a BOCES can vary depending on the identity of the BOCES.

Finally, we deal briefly with issues surrounding the delivery of services to handicapped students in rural areas. In particular, we consider the question of whether or not scale and sparsity are related to the incidence of students who have been identified as having special needs. Moreover, we speculate over the costs associated with the presence of small numbers of students with specialized needs.

Before turning to the presentation of our findings, it is useful to explain two differences between our research and much of the research that has been carried out for the Task Force. First, we have used unweighted districts as our principal unit of analysis. Most research presented to the Task Force has employed pupil-weighted districts as the unit of analysis. Our preference for unweighted districts is understandable in light of our desire to draw attention to the many very small districts in the state. By eschewing weights, we treat all districts, regardless of their size, as having the same importance. One of the consequences of this is that in a decile breakdown on the basis of size, bottom decile represents the smallest 10 percent of the districts in the state and accounts for a miniscule fraction of the pupil population in the state (the smallest 10 percent of the districts in 1978-79 served 1.3 percent of the pupils in New York State).

Second, we focus our attention on regular K-12 districts. This decision stems from the tendency for very small districts to serve fewer than thirteen (K-12) grade levels. The danger is that small high school districts may be lumped together with small elementary districts (K-6, for example) and treated as though they were all comparable to small K-12 districts. We have avoided this problem by excluding all non K-12 districts from our sample.

Levels of Spending

Scale of Operation. Table 1 provides information about the characteristics of small compared to large school districts in New York State. According to the table:

- The smallest districts in the state spend at relatively high levels. Indeed, it appears that the spending level per pupil in the smallest of the small districts rivals that of the largest districts in the state.
- State operating aid as a fraction of general fund expenditures is lower for the smallest as well as for the largest districts in the state.

These results, looked at in isolation, are consistent with an economy of scale kind of argument. The argument would go something like this: Within very small districts inefficiencies exist which force districts to incur extra costs in order to operate even a minimal program. These costs are in turn passed along to taxpayers (state and local) in the form of higher expenditure levels. The costs are borne disproportionately by local taxpayers because of the ceilings built into the state aid formula. Moreover, at the other extreme where districts become "too" large, inefficiencies also exist which lead to extra costs that are also borne disproportionately by local taxpayers. If we believed this interpretation, we could claim that taxpayer burdens are caused by very small and very large scales of operation.

But this argument neglects the fact that earlier Task Force studies show strong positive relationships between assessed valuation per pupil and spending levels as well as the fact that according to Table 1:

Table 1

The Relationship Between Expenditure Levels and Sources of Revenue and School District Scale

Total Aidable Pupil Units	1 General Fund Expenditure Per Pupil		2 Payable State Operating Aid Per Pupil		3 Operating Aid as a Fraction of the General Fund		4 Full Value Assessment Per Pupil (RWADA)		5 Local Equalized Tax Rate (in mills)	
District Deciles*	Mean	S.D.**	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
< 577	2514	1060	847	273	.384	.169	107,347	112,806	12.7	2.7
578-955	2186	371	929	288	.443	.136	65,156	43,169	13.4	2.6
956-1316	2304	518	881	233	.407	.144	64,584	33,339	15.7	4.6
1317-1577	2256	534	919	229	.437	.147	63,885	53,106	15.4	4.8
1578-1981	2376	625	901	249	.417	.163	66,429	48,706	16.6	5.9
1982-2565	2280	623	920	222	.434	.145	61,996	43,892	15.9	4.3
2566-3399	2456	662	800	249	.362	.162	73,996	45,541	17.9	4.5
3400-4529	2660	668	773	244	.324	.153	74,525	35,169	20.7	5.6
1530-7227	2625	503	780	200	.316	.117	70,448	26,938	21.6	5.4
> 7228	2581	478	828	196	.336	.108	65,818	24,774	22.7	5.9
All Districts	2423	644	858	239	.386	.152	71,368	53,421	17.2	5.7

n = 671

*Deciles are non-pupil weighted (each represents 10% of the districts and include all regular K-12 districts with the exception of the "Big 5" districts).

**Standard deviation, a measure of variation within the decile.

- The Smallest districts in the state are also the wealthiest (as measured by property wealth per pupil).

Hence, an alternate interpretation of the bivariate relationship between spending levels and scale is that it is the high wealth of the smallest districts that accounts for their high spending levels and low levels of state aid.

Before we can assess the independent relationship between scale and spending it is essential to control in some way for the confounding effects of differences in wealth. In light of this, it is instructive to note that:

- The decile representing the smallest districts is also the most internally varied. This is true both in terms of expenditure levels and wealth.

It would appear that generalizations about districts falling into this bottom decile are at best suspect.

In order to control for the effects of wealth on spending we looked separately at wealthy districts and poor districts. Table 2 reports these results. We used the wealth of the district with the average level of wealth in the state to divide the districts. (Districts with less than $76,449 in equalized assessment per pupil (RWADA) were considered poor, those in excess of this figure were considered wealthy.)

Table 2 indicates that spending levels are relatively high for the smallest of the wealthy districts while the opposite is true for the smallest of the poor district. This result may suggest that when wealthy districts are small, the costs are shouldered in some degree by taxpayers and that when poor

Table 2

The Relationship Between Expenditure Levels and School District Scale Controlling for Differences in Wealth

Total Aidable Pupil Units	Wealthy Districts n = 190				Non-Wealthy Districts n = 480			
	General Fund Expenditure Per Pupil		Full Value Assessment Per Pupil		General Fund Expenditure Per Pupil		Full Value Assessment Per Pupil	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
< 577	3183	1410	191,545	138,330	2050	157	49,056	12,240
578-955	2596	534	125,508	51,521	2060	166	46,587	13,119
956-1316	2845	605	109,278	31,041	2105	299	48,166	12,759
1317-1577	2992	743	133,922	91,232	2078	256	49,025	11,508
1578-1891	3164	580	122,083	61,757	2064	264	44,399	11,084
1928-2565	3003	997	122,994	64,599	2089	256	45,883	11,642
2566-3399	3169	703	124,307	48,334	2116	234	49,935	12,979
3400-4529	3319	522	113,214	25,737	2268	369	41,495	12,136
1530-7227	3089	441	100,244	24,211	2383	337	54,873	9,529
> 7228	2997	590	102,929	30,776	2479	390	56,715	10,947
Total Sample	3066	797	127,043	73,250	2169	316	49,330	12,345

districts are small, the costs are shifted away from taxpayers and onto students in the form of a reduced program.

Notice that this interpretation presumes the existence of costs that arise when scale is small. The point is that depending on the wealth of the district, these costs may be handled differently. In one case the costs are assumed by taxpayers, in the other the costs are shifted to students. Also notice that this interpretation is rich in policy implications. For example, if taxpayers shift the costs associated with remaining small onto students, the state may have a responsibility to offset these costs in some way even in those districts where taxpayers refuse to approve district consolidation proposals on unreasonable grounds. This issue will be examined more completely in Section V where policy implications are discussed.

As appealing as this interpretation is to us, we recognize its shortcomings. Principal among these is the inadequate nature of our control for wealth. This is especially true for the wealthy districts, since the small and wealthy districts continue to have higher wealth than other districts. However, also notice that dispersion within this grouping remains large. A case by case analysis of these small wealthy districts showed that two districts account for virtually all of the extra variation and higher wealth attributed to the grouping.[10] Exclusion of these districts revealed a mean and standard deviation for wealth which were comparable to that found for the other groupings. While the expenditure level for the bottom decile was reduced, the pattern observed in Table 2 remained intact. Currently, we are at work employing more sophisticated techniques to control for the confounding effects of wealth.

Table 3

The Relationship Between Expenditure Levels and Sources of Revenue and School District Sparsity

	1		2		3		4		5	
Sparsity (Enrolled Pupils Per Square Mile)	General Fund Expenditure Per Pupil		Payable State Operating Aid Per Pupil		Operating Aid as a Fraction of the General Fund		Full Value Assessment Per Pupil (RWADA)		Local Equalized Tax Rate (in mills)	
*District Deciles	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
<6.9	2328	437	824	250	.38	.15	95,494	65,219	12.8	2.8
7.0-11.0	2115	310	1000	180	.48	.10	55,691	48,789	13.7	2.9
11.1-16.6	2126	396	973	195	.47	.12	57,098	36,810	13.7	2.2
16.7-23.76	2097	300	982	197	.48	.12	91,925	31,241	14.1	2.6
23.79-35.9	2079	236	948	170	.47	.11	52,644	20,577	14.7	3.1
36.4-73.5	2247	390	878	221	.31	.13	67,090	58,919	16.4	2.9
73.6-164.5	2560	595	770	237	.33	.14	78,359	44,430	19.1	4.9
167.1-480.8	2786	730	711	214	.28	.13	88,746	55,894	20.9	5.4
483.8-910.0	2880	708	736	211	.28	.13	83,482	38,567	22.6	5.5
>918.3	2947	496	753	248	.27	.12	76,362	27,429	25.3	5.6
All Districts	2415	585	859	238	.39	.15	70,528	47,028	17.3	5.8

29 n = 652

*Deciles are non-pupil weighted (each represents 10% of the districts and include all regular K-12 districts with the exception of the "Big 5" districts).

Sparsity. Table 3 considers the impact of sparsity on spending levels and sources of revenue. Notice that the relationships shown are similar to though not as strong as those revealed by Table 1. The most sparsely settled districts spend at a slightly higher level than do districts falling into the next five deciles. The most sparse districts are also wealthier than other districts, although their wealth is more in line with the statewide average than is true for the smallest scale districts (see Table 1).

We hypothesize that sparsity's primary impact on school district spending is in the area of transportation. In light of the high nominal rate at which the state subsidizes transportation costs, we suspect that the relationships revealed between sparsity and spending levels are accounted for more by the tendency for sparse districts to also be small ($r = .43$) than by an independent effect of sparsity.

However, we do not mean to suggest by this that sparsity is unimportant. As will become clearer later, sparsity holds considerable promise as a means of interpreting the state's responsibility for mitigating the costs associated with small scale.

Spending Patterns

The previous discussion centered around the relationship between scale and sparsity and the overall level of school district spending. Here we focus attention on the relationship between how these background characteristics and how districts spend a given level of funds.

Scale of Operation. Table 4 examines the relationship between scale of operation and the distribution of funds across categories of school district budgets. At present, the categories we deal with are highly aggregated and

Table 4

The Relationship Between Spending Patterns and School District Scale

	1		2		3		4		5		6		7	
Total Aidable Pupil Units	General Fund Expenditure Per Pupil		Approved Operating Expenditure Per Pupil		Transportation Expenditure Per Pupil		BOCES Expenditure Per Pupil		Approved Operating Expenditures as a Fraction of the General Fund		Transportation Expenditures as a Fraction of the General Fund		BOCES Expenditures as a Fraction of the General Fund	
* District Deciles	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
< 577	2514	1060	1895	839	159	65	164	83	.75	.07	.07	.02	.07	.04
578-955	2186	371	1614	318	144	35	139	43	.74	.05	.07	.02	.06	.02
956-1316	2304	518	1738	515	132	51	107	44	.75	.07	.06	.02	.05	.02
1317-1577	2256	534	1701	461	135	45	94	43	.75	.05	.06	.02	.04	.02
1578-1981	2376	625	1812	560	123	40	98	45	.76	.06	.06	.02	.04	.02
1982-2565	2280	623	1761	508	129	41	77	24	.77	.05	.06	.02	.04	.01
2566-3399	2456	662	1916	574	118	47	73	33	.78	.05	.05	.02	.03	.01
3400-4529	2660	668	2109	629	117	49	74	35	.79	.08	.05	.02	.03	.01
1530-7227	2625	503	2101	479	119	44	68	39	.80	.05	.05	.02	.03	.02
> 7228	2581	478	2061	443	99	37	53	30	.80	.06	.04	.02	.02	.01
All Districts	2423	644	1870	569	127	48	95	55	.77	.06	.05	.02	.04	.02
n = 671														

*Deciles are non-pupil weighted (each represents 10% of the districts and include all regular K-12 districts with the exception of the "Big 5" districts).

this is problematic since it obscures many of the more subtle ways in which costs can be imposed on students. In subsequent analyses we expect to examine the allocation of resources across more refined categories of the school district budget. Moreover, we plan to examine staffing ratios as well as starting teacher salaries.

According to Table 4:

- Small districts spend less per pupil on approved operating expenses than do the largest districts. This is true despite the relatively high level of spending in the smallest districts on the general fund.
- Small districts spend a smaller percentage of their general fund on approved operating expenses than do others.
- Small districts spend more both in absolute (dollars per pupil) as well as in relative terms (fraction of the general fund) on transportation related expenditures, although this is due in large part to the tendency for small districts to be sparsely settled.
- Smaller districts spend more on BOCES related expenses on a per pupil basis and it accounts for a larger fraction of their budgets.

Sparsity. Table 5 presents a parallel analysis of the relationship between sparsity and spending patterns. The results are similar to those found for scale:

- Sparse districts spend fewer dollars per pupil on approved operating expenditures than do the most densely settled districts.
- Sparser districts spend a smaller fraction of their general fund on approved operating expenses.
- Sparser districts spend more on transportation on a per pupil basis and it accounts for a larger fraction of their budgets.

Table 5

The Relationship Between Spending Patterns and School District Sparsity

Sparsity (enrolled pupils per square mile)	1 General Fund Expenditure Per Pupil		2 Approved Operating Expenditure Per Pupil		3 Transportation Expenditure Per Pupil		4 BOCES Expenditure Per Pupil		5 Approved Operating Expenditures as a Fraction of the Feneral Fund		6 Transportation Expenditures as a Fraction of the General Fund		7 BOCES Expenditures as a Fraction of the General Fund	
*District Deciles	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
< 6.9	2328	437	1745	396	164	47	158	79	.75	.06	.07	.02	.07	.03
7.0-11.0	2115	310	1575	269	146	30	129	50	.74	.05	.07	.02	.06	.02
11.1-16.6	2126	396	1570	314	146	37	112	48	.74	.05	.07	.02	.05	.02
16.7-23.76	2097	300	1548	267	126	31	98	33	.74	.06	.06	.01	.05	.02
23.79-35.9	2079	236	1594	229	129	39	80	32	.77	.05	.06	.02	.04	.02
36.4-73.5	2247	390	1713	317	129	37	78	38	.76	.05	.06	.01	.04	.01
73.6-164.5	2560	595	1999	496	128	51	88	50	.78	.04	.05	.02	.03	.02
167.1-480.8	2786	730	2211	607	118	50	74	46	.79	.06	.04	.02	.03	.02
483.8-910.0	2880	708	2334	636	97	47	70	50	.81	.07	.03	.01	.02	.01
> 918.3	2947	496	2395	505	89	40	63	35	.81	.08	.03	.01	.02	.01
All Districts	2415	585	1867	531	127	46	95	55	.77	.06	.05	.02	.04	.02

n = 652

*Deciles are non-pupil weighted (each represents 10% of the districts and include all regular K-12 districts with the exception of the "Big 5" districts).

- Sparser districts rely more heavily than others on BOCES services. This is true both in terms of dollars per pupil and the fraction of their general fund.

One of the questions we are interested in is the degree to which a non-instructional service such as transportation can detract from the ability of a district to provide instructional services. Our early results in Table 4 and 5 suggest that if two districts were spending at the same level, the smaller or sparser of the two would tend to spend less on approved operating expenses.

Is this a cause for concern? Perhaps. If we could show that money not being spent on approved operating expenses is spent on non-instructional services, the shifting of resources away from approved expenses would count as evidence of a student related burden. We could argue that students in smaller or more sparsely settled areas have less spent on their instruction than do students in other districts spending at the same overall level.

However, the results in Tables 4 and 5 cannot be used in support of this type of argument because funds not spent on approved operating expenses can be spent on services that are directly related to instruction, most notably BOCES services. And if we add column 5 to column 7, we find that neither scale nor sparsity is related to the fraction of the general fund spent on the total of these two items. But we also need to be mindful of the fact that BOCES expenditures typically result in the provision of services for special populations within school districts. The increased reliance on BOCES services in the small and more sparsely settled districts may count as evidence of resources being shifted away from the regular instructional program and into programs for vocational and special education.

Further research is needed to determine the extent to which factors such as sparsity and scale occasion the shifting of resources within school districts. As we examine more refined categories of the budget, we hope to provide some additional insight into this phenomenon in our final report.

Before turning to a more detailed analysis of transportation, we wish to point out a second issue which needs to be addressed. Tables 4 and 5 show clearly that sparse and small districts are less dependent on general aid and more dependent on special aids such as transportation and BOCES than are other districts. It follows that any inequities associated with the transportation and BOCES formulas have disproportionately adverse effects on small and sparse districts.

More on Transportation

This section takes a closer look at how school districts allocate funds for transportation. The goal is to break the aggregate total spending for transportation into its components to see if sparsity is related to the means districts employ to provide transportation services. According to Table 6:

- Sparsely settled districts spend more on transportation on a per pupil basis than the other districts.
- Sparsely settled districts tend to rely more heavily on district operated transportation services than others.
- The effective aid ratio[11] (column 7) appears at first to be curvilinearly related to sparsity such that the very sparse districts and the very dense districts face lower aid ratios than other districts.

Table 6

Relationship Between Expenditure Patterns for Transportation and School District Sparsity

Sparsity (enrolled pupils per square mile)	1 Transportation Expenditure Per Pupil		2 Transportation Expenditure Per Pupil on District Operated Services		3 Approved Transportation Expenditure Per Pupil		4 State Transportation Aid Per Pupil		5 District Operated Transportation Expenditure as a Fraction of Total Trans. Exp.		6 Approved Transportation Expenditure as a Fraction of Total Trans. Exp.		7 State Aid as a Fraction of Total Transportation Expenditure		8 Non-Allowed Students as a Fraction of Students Transported	
*District Deciles	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
< 6.9	164	47	126	49	142	42	113	32	.78	.21	.87	.09	.70	.13	.10	.08
7.0-11.0	146	30	117	34	128	31	104	26	.80	.17	.87	.10	.72	.12	.07	.06
11.1-16.6	146	37	112	44	133	37	108	31	.80	.26	.91	.08	.74	.11	.09	.09
16.7-23.76	126	31	102	37	117	31	96	22	.82	.24	.92	.05	.77	.12	.08	.06
23.79-35.9	129	39	90	51	121	38	97	30	.72	.34	.94	.07	.76	.09	.07	.06
36.4-73.5	129	37	91	55	122	36	97	29	.70	.36	.94	.08	.75	.09	.10	.07
73.6-164.5	128	51	64	60	120	50	97	42	.53	.42	.93	.09	.73	.09	.12	.08
167.1-480.8	118	50	45	47	105	47	84	36	.39	.36	.88	.12	.72	.12	.20	.15
483.8-910.0	97	47	18	29	83	42	66	36	.20	.29	.87	.14	.69	.15	.19	.16
> 918.3	89	40	17	30	74	35	57	26	.16	.24	.85	.15	.65	.14	.24	.17
All Districts	127	46	78	58	114	44	92	35	.59	.38	.90	.11	.72	.12	.13	.12

n = 653

*Deciles are non-pupil weighted (each represents 10% of the districts and include all regular K-12 districts with the exception of the "Big 5" districts).

The curvilinear nature of the relationship between the aid ratio and sparsity can, in part, be explained by the confounding effects of the varying tendency for districts to transport non-allowed pupils.[12] As column 8 in Table 6 indicates, the more densely settled districts are more likely to transport non-allowed pupils. Since the tranportation of non-allowed pupils, by definition, exerts downward pressure on the effective aid ratio, it follows that one reason for the low aid ratios observed for the densely settled districts is their tendency to transport non-allowed pupils. Indeed, when we controlled for the effects of the presence of non-allowed pupils we found that most of the sparsely settled districts are faced with a lower effective aid ratio for transportation aid than are more densely settled districts. Table 7 demonstrates this result.

In light of this, it would appear that the effective aid ratio for districts that rely heavily on district operated transportation is lower than otherwise equivalent districts that rely heavily on contracted services. This counts as evidence if an inequity so long as it can be shown that the districts who elect to provide their own transportation do so out of necessity rather than free choice.

More on BOCES

The heavy reliance of small and sparsely settled districts on BOCES services prompted us to look more closely at how BOCES operate. We view the provision of services on a shared basis as a promising means of offsetting or eliminating the extra costs small scale can entail and we are curious about how effective the current BOCES system is at reducing these costs.

We seek answers to two questions about the BOCES. First, we are interested in knowing whether there are unrecognized impediments that

Table 7

Relationship Between State Aid as a Fraction of Total Transportation Expenditures and School District Sparsity Controlling for the Presence of Non-Allowed Pupils

Sparsity (pupils in enrollment per square mile)	Districts with Low Incidence of Transported Non-Allowed Pupils (less than 20 percent)			Districts with High Incidence of Transported Non-Allowed Pupils (more than 20 percent)		
	Mean	S.D.	n	Mean	S.D.	n
< 6.9	.71	.13	59	.71	.14	7
7.0-11.0	.72	.11	66	.55	.20	3
11.1-16.6	.75	.11	63	.63	.10	5
16.7-23.76	.77	.12	67	.69	.05	2
23.79-35.9	.76	.09	65	.63	.19	3
36.4-73.5	.75	.09	63	.60	.12	5
73.6-164.5	.74	.08	57	.65	.10	11
167.1-480.8	.77	.12	32	.68	.10	36
483.8-910	.77	.14	32	.63	.12	36
> 918.3	.73	.14	26	.62	.13	42
All Districts	.75	.11	530	.64	.12	150

districts encounter when they seek to make use of their local BOCES. We considered several types of potential impediments and use the term "isolation" to refer to them all. Hence our first question concerns the degree to which isolation within a BOCES affects the level of a district's participation.

Next we began to recognize that the meaning of a given level of participation can vary across the BOCES. In other words we began to recognize how difficult it is to make generalizations about BOCES services. Our second question deals with the nature of the inequalities that exist among the 44 BOCES around the state.

Isolation. We have conceptualized isolation in two ways. First we deal with it in terms of differences that may exist between a given district and its fellow members of the local BOCES.[13] It is possible, for example, to imagine what might be called a rural school district in a BOCES which is dominated by suburban school districts. In order to explore this aspect of isolation we selected three variables of interest: scale of operation (pupil count), wealth per pupil, and geographic size, and calculated means and standard deviations for each BOCES by aggregating the relevant district level data. This procedure yielded three means and standard deviations for each of the 44 BOCES in the state. It was then possible to assess the degree to which individual districts differ from the average calculated for the local BOCES. Standardized scores were calculated for each district and Table 8 reports the results.

According to the table, a sizeable number of districts (between 144 and 163, depending on the variable) find themselves more than one standard deviation away from the average for their respective BOCES. Moreover, the districts

Table 8

District Characteristics in Relation to BOCES Characteristics

(figures represent the count of Districts falling into each category)

	Number of Standard Deviations Below(-) or Above (+) the Mean for the District's BOCES							
	-3	-2	-1	0	+1	+2	+3	+4	+5
Full Value Assessment Per Pupil	0	53	367	169	54	27	10	0
Total Aidable Pupil Units	0	55	372	146	50	44	4	1
Square Miles	1	63	324	184	67	28	5	0

which find themselves most different from their neighbors are the very wealthy, the districts with extraordinarily high pupil counts, and the districts which cover large geographic areas.

This last result is interesting since very wealthy districts as well as very large scale districts are almost by definition less dependent on BOCES as a means of delivering services than are their less well to do, smaller peers. In contrast, the districts that cover very large geographic areas are likely to face costs which make the concept of shared services attractive. And yet, there are roughly 32 districts in the state who are significantly larger geographically than their fellow cooperators in the local BOCES. This kind of isolation may have adverse effects on the ability of BOCES to meet these district's special needs.

In order to test this proposition, we examined the relationship between isolation and level of participation in BOCES service. Table 9 reports these results. The most reasonable conclusion to draw is that isolation, as we have defined it here, has little to do with the fraction of the general fund spent on BOCES services. (The tendency for the unusually large scale districts to participate at lower levels is most reasonably attributed to the ability of these large districts to provide special programs internally.) However, it is premature to reach this conclusion. Additional analyses using more refined measures of isolation as well as participation are in progress.

The second type of isolation we have been considering involves geographic isolation. A district may be quite similar to its neighbors but be so distant from its local BOCES center that costs are incurred which preclude full participation.

Consider the time students may be required to spend riding on buses to and from BOCES centers. The point here is that even if the state paid for all of

Table 9

Relationship Between Isolation and the Level of Participation in BOCES Programs

*Nature of the Comparison Between the District and its Parent BOCES	n	Expenditure Per Pupil on BOCES Expenditures	Expenditure on BOCES on a Fraction of the General Fund
District "Much" Poorer than the BOCES Average	0	0	0
District Poorer than the BOCES Average	53	88	.04
District Comparable to the BOCES Average	526	95	.04
District Wealthier than the BOCES Average	54	100	.04
District Much Wealthier than the BOCES Average	38	92	.03
District Enrolls Many Fewer Pupils than the BOCES Average	0	0	0
District Enrolls Fewer Pupils than the BOCES Average	55	111	.04
District Enrollment Comparable to the BOCES Average	520	99	.04
District Enrolls More Students than the BOCES Average	50	74	.03
District Enrolls Many More Students than the BOCES Average	46	52	.02
District's Geographic Size Much Smaller than the BOCES Average	1	159	.09
District's Geographic Size Smaller than the BOCES Average	63	88	.04
District's Geographic Size Comparable to the BOCES Average	508	97	.04
District's Geographic Size Larger than the BOCES Average	67	89	.04
District's Geographic Size Much Larger than the BOCES Average	32	83	.03

*The term "much" and "many" refer to Districts more than two standard deviations away from the mean for their respective BOCES. The term "comparable" refers to Districts within one standard deviation on either side of their BOCES' mean. The Districts falling into the remaining categories are between one and two standard deviations of the appropriate mean.

the out of pocket expenses associated with lengthy bus rides, participation rates for the geographically isolated districts might still be low. An attractive explanation for this type of result would hold that the real costs associated with the lengthy bus ride are imposed not on the districts, but on the students and their families. Short of outright coercion, the availability of a splendid vocational program 40 miles away is not likely to attract many students, regardless of how generous the state is in terms of transportation aid.

In our final report we will examine the degree to which geographic isolation within a BOCES is related to levels of participation in BOCES.

Variation Among BOCES. Recall that our second question regarding BOCES deals with inequalities that exist among the 44 BOCES districts in the state. For the purpose of this analysis we treat the BOCES rather than the districts as the unit of analysis.

We were surprised by the amount of variation we found when we looked at our data aggregated to the BOCES level. Table 10 describes our early results and shows that:

- Some BOCES, on the average, serve very wealthy districts while other BOCES serve very poor districts. The mean district wealth for the "wealthiest" BOCES is close to 7 times the mean district wealth for the "poorest" BOCES.

Table 10

Selected Descriptive Statistics for the BOCES Districts**
1978-1979

	Average Member District Wealth Per Pupil	Average Member District Total Aidable Pupil Units	Average Member District Square Miles	*Average Distance in Miles Between Member Districts and BOCES Regional Centers
Lowest	$ 39,570	675	4.8	9.9
10th percentile	44,183	1,286	12.6	10.2
Mean	71,436	3,099	60.5	15.2
90th percentile	89,868	4,877	104.8	17.7
Highest	275,972	8,051	263.7	24.6

*These figures are preliminary. They are based on a sample of 10 BOCES. This sample is currently being expanded.

**Each column refers to a separate distribution. In other words the highest wealth BOCES need not be the BOCES with the highest average member district's TAPU count.

- BOCES vary in terms of the average scale (pupil count) of their member districts. The average district scale in the BOCES serving the largest districts is 12 times greater than the average district scale in the BOCES serving the smallest districts.
- Moreover the difference among the BOCES in terms of the average number of square miles covered by their members is even larger. Here, the BOCES at the two extremes of this distribution differ by a factor of 55.
- Finally, BOCES vary in terms of how far, on the average, students have to travel from their home district to the regional center. In a sample of 10 BOCES, the average distance children have to travel can differ by a factor in excess of 2.

Moreover, some BOCES are considerably more varied internally than are others. In other words, some BOCES serve districts that are quite similar to one another while quite the opposite is true for other BOCES. Table 11 describes this phenomenon.

It is one thing to document instances of inequality among publicly funded educational organizations and quite another to demonstrate that the inequalities constitute denials of educational opportunities that warrant intervention by the state. As a first step toward this latter goal, we are in the midst of considering the extent to which the characteristics we have identified are related to the delivery of BOCES services. This analysis is currently in progress and we expect to report results in our final report.

The Identification of Students With Special Needs

Here we are concerned with the possibility that the costs associated with ruralness per se may be imposed on certain categories of students in the

Table 11

Documentation of Variation Within BOCES Districts 1978-1979
(figures represent coefficients of variation (standard deviation ÷ mean))

	Variation in Member District Wealth Per Pupil	Variation in Member District Total Aidable Pupil Units	Variation in Member District Square Miles	*Variation in Distance Between Member Districts & Regional Centers
Lowest	.14	.28	.33	.40
10th percentile	.20	.48	.44	.40
Mean	.31	.74	.61	.54
90th percentile	.74	.91	.98	.67
Highest	1.05	1.28	1.09	.86

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*These figures are preliminary. They are based on a sample of 10 BOCES. This sample is currently being expanded.

form of reduced program offerings. Although program budget data would be useful for this type of analysis, its unavailability has forced us to adopt a second best position and search for indirect ways of assessing differing emphases across programs within school districts. Specifically, we reasoned that one way districts could finance the costs of small scale operation would be to offer a reduced level of program in one area of the curriculum and thereby free the funds necessary to provide services in other areas. For example, if the offerings in costly programs such as special education were reduced, a potentially significant drain on the fiscal resources of the district would be removed,[14] and funds would be freed for use in the regular instructional program. If this were the case, the burden associated with small scale would be shifted to the students with special needs.

We also reasoned that one strategy districts could employ to cut back on its obligation to students with special needs would involve making it increasingly difficult for a child to be identified as having a special need. By classifying a student as "normal" rather than as "needy", the small district could achieve two results: 1) an increased size of the regular instructional program, thereby taking maximum advantage of whatever gains are to be had from increasing scale, and (2) a reduction in the need to provide costly special programs that potentially can drain resources out of regular instruction.

In order to explore this line of argument we examined the relationship between scale and the incidence of students who have been identified as having special needs. Tables 12 and 13 display our results broken down by scale and sparsity and show it is much more likely for students to be enrolled in a handicapped program if they attend school in the more densely settled areas of the state or in larger school districts. It is instructive to note

Table 12

The Relationship Between the Incidence of Students Classified as Having Handicapping Conditions and School Districts Scale

Total Aidable Pupil Units	Fraction of Pupils Enrolled in District Operated Handicapped Programs		Fraction of Pupils Enrolled in BOCES Operated Handicapped Programs		Fraction of Pupils Enrolled in District Operated Excess Cost Handicapped Programs		Fraction of Pupils Enrolled in BOCES Operating Excess Cost Handicapped Programs	
*District Deciles	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
< 577	.001	.003	.017	.016	.000	.002	.007	.010
578-955	.003	.007	.016	.013	.000	.001	.007	.006
956-1316	.006	.010	.016	.012	.001	.002	.008	.005
1317-1577	.006	.011	.014	.010	.001	.005	.007	.005
1578-1981	.009	.013	.012	.009	.002	.007	.007	.005
1928-2565	.011	.013	.011	.009	.001	.003	.006	.005
2566-3399	.013	.011	.011	.009	.003	.007	.007	.007
3400-4529	.013	.013	.014	.010	.004	.009	.009	.007
4530-7227	.012	.012	.011	.008	.004	.007	.008	.005
> 7228	.019	.012	.008	.007	.008	.009	.006	.009
Total Sample	.009	.012	.013	.011	.002	.006	.007	.006

n = 670

*Deciles are non-pupil weighted (each represents 10% of the districts and include all regular K-12 districts with the exception of the "Big 5 districts).

Table 13

The Relationship Between the Incidence of Students Classified as Having Handicapping Conditions and School District Sparsity

Total Aidable Pupil Units	Fraction of Pupils Enrolled in District Operated Handicapped Programs		Fraction of Pupils Enrolled in BOCES Operated Handicapped Programs		Fraction of Pupils Enrolled in District Operated Excess Cost Handicapped Programs		Fraction of Pupils Enrolled in BOCES Operating Excess Cost Handicapped Programs	
*District Deciles	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
< 6.9	.002	.007	.014	.014	.000	.002	.005	.006
7.0-11.0	.005	.011	.017	.013	.000	.001	.007	.006
11.1-16.6	.005	.008	.014	.012	.000	.002	.007	.008
16.7-23.76	.008	.013	.013	.009	.000	.001	.007	.006
23.79-35.9	.010	.011	.011	.009	.001	.005	.007	.005
36.4-73.5	.010	.012	.013	.009	.002	.004	.008	.006
73.6-164.5	.010	.012	.014	.011	.001	.004	.008	.006
167.1-480.8	.011	.013	.011	.008	.004	.008	.006	.004
483-910.0	.013	.012	.012	.010	.007	.009	.008	.007
> 918.3	.017	.013	.012	.010	.008	.010	.010	.008
All Districts	.009	.012	.013	.011	.002	.006	.007	.006

n = 652

*Deciles are non-pupil weighted (each represents 10% of the districts and include all regular K-12 districts with the exception of the "Big 5" districts).

that the fraction of the student body enrolled in BOCES operated handicapped programs (especially BOCES operated excess cost programs) is not strongly related to sparsity or scale. This result is somewhat surprising to us since we expected to find a heavier use of BOCES in the smaller sparser districts.

At this stage of our analysis, these results are difficult to interpret. While they are consistent with our claim that small scale and sparsity impose costs that make it more difficult for the affected districts to provide service to needy students, there are competing explanations that must also be considered.

For example, the underlying distribution of students with handicapping conditions as determined by a fixed set of standards may be such that larger numbers of students with special needs exist in the larger and more densely settled school districts. This could be due to a correlation between levels of poverty and the incidence of handicapping conditions; it could also be due to a selection bias which stems from a tendency of parents with students who have handicaps to move out of rural areas where services are less adequate and into larger districts in densely settled areas where programs are available.

One further point about the selection bias. Suppose this is the major reason for the results in Tables 12 and 13. It is not clear that this is a desirable state of affairs. Why should parents be "forced" to adjust their residence because the local school system is unable to address their special needs? While it may be argued that it would be inefficient for the state to underwrite the extra costs associated with operating an approved program for a special need in a rural district, cannot the same argument be made about efforts the state make to underwrite the extra costs of operating schools in

the most densely settled and largest districts? We address this issue more thoroughly in Section 4.

A more complete analysis would examine the treatment of the so-called gifted students in small and sparsely settled districts compared to others. Anecdotal evidence suggests that it is this group of students that incurs disproportionate shares of the costs associated with small scale and sparse population settlement. Unfortunately, data which would permit us to address this issue are unavailable.

Analyses in Progress

At present we have begun to explore the consequences of three of the six background characteristics we have agreed to examine for the Task Force. Among the characteristics we plan to examine in the coming months are: (1) the discrepancy between property and income measures of wealth, (2) changes in enrollment levels and (3) changes in fiscal capacity. In addition to studying each of these factors separately, we plan to explore the potential for the factors to interact. For example, we expect to give considerable attention to the possibility that the impact of a change in enrollment depends on how large the district was in the initial period. We suspect that a 5% change in enrollment for a district with 300 students has different implications than a 5% change in a district with 3,000 students.

We also plan to use more refined measures of how districts allocate their funds across budget items. We expect to find significant relationships between the impact of small scale and more refined measures of the internal allocation of educational resources.

Moreover, our efforts to examine more subtle aspects of the resource allocation process will not be limited to the analysis of financial records.

We anticipate giving close attention to staffing ratios, as well as to the starting salaries of teachers.

The following and final section of our report provides some interpretation of our findings to date from a policy perspective and outlines various options that might be pursued as a means of alleviating the costs associated with operating schools in rural areas.

Section V: Policy Issues

From a policy perspective, we have two objectives. The first, and perhaps most immediate, is to provide the Task Force with a means of assessing the impact on so-called rural district of the changes in the school aid formula that have already been proposed. Our goal here is to use the findings we have in hand regarding the impact of characteristics commonly found in rural areas on resource allocation practices to generate a set of working definitions for what counts as a rural school. As soon as this definition can be established, it will be possible to use simulation analyses to generate estimates of the impact proposed changes in the formula will have on the rural schools of the state.

The progress we can report toward this goal takes the form of a relatively small number of alternate definitions. We have struggled to keep the number of alternatives manageable without losing sight of the many attributes that exist in rural areas. Because our empirical analysis remains incomplete, we have been forced to engage in some speculation over what promising categorizations might look like.

Our second objective is to propose a series of policies which if enacted would directly address the problems we have identified in the course of our research. At this stage we can report a series of options that are worthy of serious consideration. We stop short of making explicit recommendations. In our final report we hope to narrow the field and to provide statements regarding the expected consequences of enacting one rather than another of the proposals.

Before turning to a discussion of our progress toward these two goals, several points need to be made:

- Earlier we showed that while numerous, the small, sparsely settled, and isolated districts in New York State account for a small percentage of the pupil population in the state. For example, recall that the smallest 10 percent of the districts accounts for fewer than 1.3 percent of the students in New York State. This is relevant from a policy perspective since it suggests that reforms for so-called rural districts can be had at relatively modest cost to the state.
- It is difficult to consider the appropriate response of the State to the alleged existence of extra costs in small scale districts without considering the degree to which a given small district is small out of necessity rather than choice. This turns out to be a complicated distinction to draw, but we hold that it is a necessary ingredient of a fiscally responsible set of proposals.

Toward a Working Definition of a Rural School

In this section we propose a series of alternate ways to identify school districts that are forced to contend with the types of extra costs we have been discussing. Our basic position is that smallness of scale is a major source of extra costs but that a definition that involves scale without any further qualification is unacceptable.

There are at least three reasons for imposing qualifications on the use of scale as the primary indicator of a district with special needs. First, some small districts are more able than others to offset the costs associated

with smallness through participation in their local BOCES. Second, some districts choose to be small while others are forced through no fault of their own to operate small scale programs. To the extent that the costs associated with a voluntary decision to remain small are imposed on taxpayers rather than students, the state need not be concerned with offsetting these costs. Third, some of the smallest districts in the state, as we have seen, are also the wealthiest, and contend with the high costs of small scale by spending at higher levels, thereby imposing the costs, to some degree, on taxpayers rather than students.

In light of this, the alternate definitions we propose all include small scale as a primary characteristic but also include an additional qualification designed to exclude small districts who for one reason or another are able to finance the costs of smallness in ways that need not concern the state.

Definition I: Small scale districts that are isolated within their respective BOCES.

Depending on how the terms "small scale" and "isolation" are operationalized, the number of districts that count as rural under this definition can vary dramatically as Table 14 indicates. Table 14 also presents descriptions of the resource allocation practices of the districts that meet the requirements of the definition.

It is interesting to note that participation in BOCES (as measured by the fraction of the general fund that is spent on BOCES) is lower for small "isolated" districts than for all small districts (see Table 4). However, it is also true that these small "isolated" districts spend at higher levels than do all small districts and they may be due to high levels of wealth in absolute terms. If we could show that small and isolated districts spend at higher levels and make less use of BOCES services, even when we control for differences in wealth, we will have developed a promising means of identifying rural districts with special needs.

Table 14

Descriptive Statistics for Districts Who Are Isolated and Small Scale

Isolation	Scale - Total Aidable Pupil Units	1 n	2 Expenditure Per Pupil on the General Fund		3 Approved Operating Expenditure as a Fraction of the General Fund		4 Transportation Expenditure as a Fraction of the General Fund		5 BOCES Expenditure as a Fraction of the General Fund	
			Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Districts Who Are More Than One Standard Deviation to the Left of the Average District TAPU Count for Their Respective BOCES	< 578	19	3029	1709	.75	.08	.06	.03	.05	.04
	< 956	24	2817	1570	.75	.07	.06	.02	.05	.03
	< 1317	36	2781	1326	.77	.08	.06	.03	.05	.03
	< 1578	42	2812	1259	.77	.08	.06	.03	.05	.03
Districts Who Are More Than One Standard Deviation to the Left of the Average District Wealth Per Pupil for Their Respective BOCES	< 578	1	2013	0	.71	0	.02	0	.05	0
	< 956	6	2032	65	.71	.03	.05	.02	.08	.02
	< 1317	8	2324	555	.71	.11	.04	.02	.06	.04
	< 1578	13	2301	538	.73	.09	.05	.02	.06	.03
Districts Who Are More Than Two Standard Deviations to the Right of the Average District Geographic Size for the Respective BOCES	< 578	5	2904	706	.81	.03	.07	.02	.03	.02
	< 956	6	2899	631	.81	.03	.07	.02	.04	.02
	< 1317	8	2704	647	.79	.05	.08	.02	.04	.02
	< 1578	11	2529	620	.78	.05	.08	.02	.04	.01
Districts Who Are More Than One Standard Deviation to the Right of the Average District Geographic Size for the Respective BOCES	< 578	11	3667	1981	.72	.12	.07	.02	.04	.03
	< 956	17	3232	1689	.73	.11	.07	.02	.05	.02
	< 1317	26	2882	1446	.74	.09	.07	.02	.05	.02
	< 1578	34	2727	1312	.74	.08	.07	.02	.05	.02

One advantage that should be noted for the <1578 criterion is that it is similar to the cutting point commonly used by the State Education Department to identify small school districts.

Definition II: Small districts that are located in sparsely settled areas of population.

The purpose of including sparsity as a qualifier is to begin to deal with the important distinction between small out of choice and small out of necessity. The presumption is that small districts in sparsely settled areas are less able to reorganize than are others. This definition suffers from two potentially important flaws. First, sparsity is not the only legitimate reason a district may point to as an explanation for not reorganizing. Consider the case of a district who is willing to join its neighbors but who finds that its neighbors are not similarly inclined. This scenario could be played out in the densest areas of the state.

Second, it neglects the potential for taxpayers who voluntarily elect to remain small to impose the costs of their action on innocent third parties, most notably, students. A definition which neglects this aspect of the consequence of small scale may seriously underestimate the incidence of student related inequities that stem from operating small schools. Table 15 provides insights into the characteristics of districts that satisfy alternate versions of this definition.

Definition III: Small districts that are not highly wealthy.

Here we are trying to exclude the very wealthy small districts who appear to respond to the costs of smallness by spending at higher levels than otherwise equivalent districts. Many of these high wealth small districts are found either in resort areas or in wealthy suburban areas of the state. The inclusion of these wealthy small districts historically has been a problem

Table 15

Descriptive Statistics For Districts Who Are Sparsely Settled and Small Scale

Sparsity - pupils in enrollment per square mile	Scale - Total Aidable Pupil Units	1 n	2 Expenditure Per Pupil on the General Fund		3 Approved Operating Expenditure as a Fraction of the General Fund		4 Transportation Expenditure as a Fraction of the General Fund		5 BOCES Expenditure as a Fraction of the General Fund	
			Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Fewer than 6.9 pupils per square mile.	< 578	37	2406	511	.75	.07	.07	.02	.08	.04
	< 956	52	2356	468	.75	.07	.07	.02	.07	.03
	< 1317	56	2358	457	.75	.06	.07	.02	.07	.03
	< 1578	60	2345	445	.75	.06	.07	.02	.07	.03
Fewer than 11.1 pupils per square mile.	< 578	53	2362	526	.75	.06	.07	.02	.08	.04
	< 956	93	2263	443	.74	.06	.07	.02	.07	.03
	< 1317	110	2244	419	.74	.06	.07	.02	.07	.03
	< 1578	121	2231	403	.74	.06	.07	.02	.07	.03

associated with attempts by the state to employ size corrections in the aid formula. The problem is that the size correction can be disequalizing by directing additional aid to wealthy districts. Table 16 describes the districts that meet alternate versions of the small and non-wealthy definition.

This completes our discussion of alternate definitions. There are any number of additional definitions that might be proposed, and although we contend that the three options we have presented are among the most promising and feasible of the many we have considered, we are willing to consider additional alternatives.

Policy Options

We take the position that the state has the responsibility to offset the costs associated with background characteristics such as small scale, sparse settlements, and isolation if and only if a) the source of the cost is imposed in some fashion on the residents of the district or b) significant portions of the cost are shifted onto students in the form of reduced programs. In other words, we contend that the state need not be concerned about districts who voluntarily incur the costs and who refrain from passing them onto students.

Moreover, we have attempted to operationalize the term "rural" such that districts who voluntarily elect to remain small or who despite their small scale manage to offer their students levels of services that are comparable to otherwise equivalent districts are excluded from the definition.

Once it is established that the State has responsibility to intervene, three basic policies can be pursued. Specifically, the state can a) provide outright subsidies for the costs through adjustments of the general or categorical aid formulas, b) promote the sharing of services through the

Table 16

Descriptive Statistics For Districts Who Are Non-Wealthy and Small Scale

Equalized Wealth per pupil (RWADA)	Scale - Total Aidable Pupil Units	1 n	2 Expenditure Per Pupil on the General Fund		3 Approved Operating Expenditure as a Fraction of the General Fund		4 Transportation Expenditure as a Fraction of the General Fund		5 BOCES Expenditure as a Fraction of the General Fund	
			Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Less than $56,241 behind each pupil (the 50th percentile)	< 578	29	2049	166	.74	.06	.07	.02	.08	.03
	< 956	74	2100	391	.72	.05	.07	.02	.08	.03
	< 1317	111	2087	343	.72	.06	.07	.02	.07	.03
	< 1578	155	2070	308	.73	.05	.07	.02	.06	.03
Less than $82,963 behind each pupil (the 75th percentile)	< 578	49	2228	556	.73	.08	.07	.02	.08	.04
	< 956	107	2153	405	.72	.07	.07	.02	.07	.03
	< 1317	159	2153	403	.73	.07	.07	.02	.07	.03
	< 1578	215	2134	371	.73	.07	.07	.02	.06	.03

increased utilization of the BOCES system, and c) facilitate the further consolidation of school districts. Each of these options is discussed in greater detail below. As we mentioned earlier, in our final report we hope to narrow the field of alternatives and provide a comprehensive assessment of each of the options we present.

Subsidization.

There are any number of ways to adjust the aid formula that would work to the benefit of districts encountering the kinds of costs we have examined. At this stage of our analysis we restrict ourselves to adjustments based on scale and sparsity. In addition we point out that an income factor has a special relevance to rural schools.

Scale Adjustments. A major problem associated with providing aid to small scale districts is the potentially disequalizing effects that stem from the existence of numerous high wealth small scale districts. Historically, as we have seen, this problem has been recognized in New York State and accounts for a considerable amount of opposition to the idea of basing aid in any degree on scale. A second problem associated with a crude scale adjustment stems from the danger of making small districts less likely to reorganize.

And yet the advantages of a scale adjustment are not to be denied. Numerous costs can be traced to small scale and these costs have consequences for either taxpayers or students. By tying aid to scale, the state can provide relief to precisely those districts who are experiencing the extra costs.

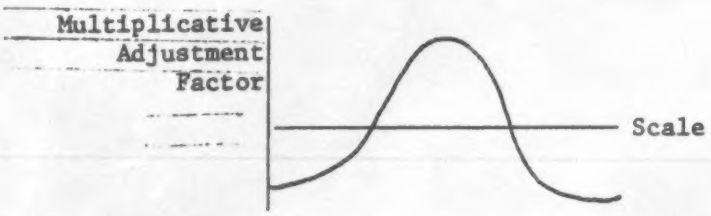
Several types of scale adjustments can be imagined. For example, scale of operation could be used to modify the measure of school districts' fiscal capacity such that the ratio of ability to pay (however measured) to the pupil count would be lower for the very small scale qualifying districts. In effect, this adjustment reflects the claim that scale of operation is independently related to costs and that the existing measures of fiscal capacity, even if

they adjust for other cost-related factors such as differences in the price level, are flawed in ways that overstate the ability of very small districts to provide educational services.

Moreover, it is possible to argue that both small and large scales of operation are associated with extra costs. To the extent that large scale is related to urban characteristics, large scale can serve as a proxy for districts experiencing many of the urban overburdens that the Task Force has studied. One means by which recognition of these costs could be introduced is by an adjustment based on an appropriate trigonometric function. For example:

$$\left(\frac{\text{Assessed Valuation}}{\text{pupil count}}\right)\left(\delta \cos \theta\right)$$

where θ is an appropriately transformed measure of scale. The goal would be to develop an adjustment of fiscal capacity that takes the following form:



A second option would involve adjusting the weights of pupils with special needs. The factor might be such that whenever enrollment fell below a critical level for a particular program, an additional weight would be assigned to the student. For example, suppose the critical level for a handicapped program is 5. For districts with fewer than 5 such students, an additional weight could be applied to the students who are enrolled in the program. This proposal has the advantage of recognizing that economies of scale can exist on a program specific basis. In other words, this adjustment recognizes that two districts with the same total enrollment can, depending on the distribution of students

among programs within the district, experience different levels of scale economies. The modified pupil weights could be used in the determination of district fiscal capacity as well as in the distribution of aid.

The advantage of a scale adjustment must be assessed in light of the very real disadvantages we mentioned above. We hope that the progress we have made toward defining rural schools can help to mitigate the disadvantages and thereby make a scale adjustment for qualifying districts a viable policy option.

Sparsity Adjustments. Sparsity's direct impact on school districts occurs in the area of transportation. Accordingly, we do not propose a sparsity adjustment for general aid. Instead we focus on adjustments based on sparsity to the transportation formula.

Recall that the use of district operated transportation services has a downward pressure on the effective state aid ratio for transportation. This result can be construed as a consequence of the state's desire to encourage districts to make use of contractors who are forced to compete among one another for the school district transportation contract. On its face we have no quarrel with such a policy. Competition can usually be expected to promote efficiency.

But consider the case of a district in an area where competition among carriers is virtually nonexistent. In such a case the district may find that the most efficient means of providing transportation services is through a self-operated program. In light of the penalty associated with the state aid package, this district is being penalized for operating in the most efficient fashion possible. Since sparsity is related to the incidence of reliance on district operated transportation services and since sparsity is also likely to be related negatively to the incidence of competition among potential contractors, it would appear that the state is treating sparsely settled districts unfairly.

One remedy would have the state treat all transportation expenditures comparably regardless of whether they are made for contracted or district operated services. This is the so-called "parity" remedy and has been proposed by the Board of Regents for several years. A serious disadvantage to this option is that it removes the incentive the state has provided for districts to take advantage of the benefits offered by competition. As a consequence of instituting full parity, one could imagine a rapid increase around the state in the use of district operated services.

This disadvantage to the parity remedy can be overcome partially if districts were required to demonstrate that a sealed bid procedure is not viable in their district. Districts who could make such a showing would then be entitled to parity. Districts who could not would continue to incur the penalty currently attached to operating their own program. If we accept the claim that sparsity is negatively related to the incidence of competition, it follows that sparsely settled districts would be entitled to parity while others would not.

A second dimension to the sparsity issue involves the potential for the high cost of transportation in sparsely settled districts to drain funds out of the instructional program. This argument presumes that despite effective matching rates in the neighborhood of 70 percent, the state's current program does not succeed at equalizing the local per pupil costs for transportation. Indeed, we found that in the sparsest districts with an effective aid ratio of 71%, the local cost per pupil was $46.18 while in the densest districts, with an effective aid ratio of 65%, the local cost per pupil was $31.51. It appears that transportation imposes a greater local burden in sparser rather than denser areas of the state. To the extent that these non-instructional expenses compete for the local tax dollar, sparse districts can be seen to be

experiencing a burden not unlike the municipal overburdens encountered in urban areas.

One remedy would be to adjust upward the effective aid ratio for the sparse districts such that local costs per pupil for transportation were equivalent. This could be achieved by modifying what counts as an approved versus non-approved transportation expense (the parity issue) or by raising the nominal matching rate for sparse districts. Or, as the Board of Regents is proposing, special surcharges could be added to certain approved transportation expenditures in sparse areas. A third remedy would entail exempting sparsely settled districts from the 7 percent caps on increases in state transportation aid.

Income Adjustments. The importance of considering the income dimension of school districts' ability to pay has been studied by other consultants to the Task Force. The alternate ways of introducing measure of income into the state aid formula are likely to have a significant impact on numerous rural schools. In our final report we will assess the advantages and disadvantages of one income adjustment compared to another from the perspective of rural schools. Moreover, we will also be considering the impact of the discrepancy that can exist in a district between income and property forms of wealth.

Promoting the Use of Shared Services

We have seen that small scale districts vary in terms of how heavily they utilize BOCES and that BOCES themselves vary in ways which suggest that it is difficult to generalize about the mix and level of services that are available in a given BOCES. The limited scope of our inquiry precludes a thorough examination of these issues, but it would appear that the state would be well advised to promote the use of BOCES by the small scale districts who through no fault

of their own are unable to take advantage of BOCES services. Several policies could be pursued in this regard. For example:

- The state could excuse qualifying districts from the cap that applies to salaries paid in excess of $9,500.
- The state could promote an increase in the number of regional centers and thereby reduce the travel time of students from their home districts to the BOCES center.
- The state could promote the use of itinerant teacher and teacher aid services as a means of reaching the isolated small districts in the region.
- BOCES could be enouraged to make some programs that are important for small schools available even when the small schools are in the minority within the BOCES. Examples might include foreign language and advanced classes in mathematics.
- The state could encourage research into use of instructional technologies that are well suited for delivering instruction in rural areas. Examples would include more effective use of educational television and computer assisted instruction.

Again, the key to making progress toward reducing inequities lies in our ability to identify the districts who are, through no fault of their own, unable to make use of BOCES services. We hope our research concerning the various isolation variables proves to be helpful in this respect.

District Reorganization

As we saw in Section II, the state's commitment to district reorganization is longstanding and has had dramatic results over the course of the century. More recently, despite the presence of financial incentives for districts to

reorganize as well the existence of a division within the State Education Department that provides technical assistance to districts who are considering a reorganization proposal, recent consolidations have been rare. It appears that the incentives currently offered fall short of making it pay for the marginal districts - those districts that are on the verge of successfully negotiating a reorganization agreement - to approve the merger. It follows that if the state increased the incentives associated with reorganization, perhaps by a substantial degree, numerous small districts would be induced to reorganize and thereby eliminate the extra costs small scale typically entails.

The blind pursuit of such a policy can lead, however, to unfortunate results. Imagine, for example, the effects of consolidating two very sparsely settled school districts, so that instead of operating two small elementary schools, one moderate size school is provided. While it may be possible to show that a more diverse set of services can thereby be supplied at lower cost, even when the extra transportation costs are included, it may also be the case that the consolidation imposes additional costs that do not appear in financial records. Perhaps the best example of these hidden or shadow costs involves the extra time students are required to spend riding buses to the centralized school. Other indirect costs (as well as rising direct costs such as fuel for buses) can also be imagined and have been discussed at length in a recent literature that deals with the disadvantages of district consolidation.[15] This literature gives explicit attention to the adverse effects of consolidation on community participation in educational activities as well as to the pedagogic disadvantages for students. Many of these studies highlight the importance of the intimate contact students allegedly receive in small schools and tend to discount the importance of diversity in the mix of course offerings.

In light of these arguments we are dubious about the utility of a policy which dramatically raises the incentives across the board for districts to

consolidate. Again, it would be desirable to identify those districts for whom consclidation is a viable option from the others. But how can such a distinction be drawn? Our definition of "rural" cannot be used for this purpose since consolidation is probably the best option for districts on both sides of the division. For example, there may be two small isolated districts that we are defining as rural for whom consolidation would result in a net decrease in costs. Moreover, there are numerous small non-rural districts for whom the decision to remain small is voluntary but who pass some portion of the associated costs onto students. Incentives to reorganize would appear to be a particularly promising policy for the state to pursue for these small "non-rural" districts.

One solution to this problem is to recognize the importance of pursuing simultaneously several policies regarding inequities associated with a factor such as scale. If the state were to simultaneously provide a scale adjustment for those districts who are in sparsely settled areas where consolidation is not feasible and at the same time substantially increase the incentives offered to <u>all</u> small districts to reorganize, it may be possible to achieve our goal. This follows from the fact that district decision making is made in reference to the cost of one option <u>relative</u> to that of others. So that in the small <u>non-rural</u> district the cost of remaining small is raised by the full amount of the increase in the incentive to consolidate. In contrast, because of the simultaneous introduction of the scale factor for the small <u>rural</u> districts, the price of remaining small to them may go up but not to the same extent. Indeed, it is possible to develop the two policies such that the cost of remaining small for <u>non-rural</u> small districts rises while the opposite occurs for the small <u>rural</u> districts. Again, our rationale for prodding the small non-rural districts, who presumably voluntarily elect to remain small, to

consolidate is the tendency for these districts to pass some fraction of the costs smallness entails onto students.

A second possible solution, and one which could complement the first, would involve the reorganization of portions of local school districts' program offerings. For example, it is possible for districts to consolidate their offerings for grades 9-12 and maintain their own K-8 programs. Such a reorganization would lead to the formation of what are known as regional high schools. Other examples would include the consolidation of transportation or library services.

The chief advantage of this approach is that it offers a means of maintaining the intimacy and community participation associated with small schools while facilitating the provision of a more diverse set of offerings in a more cost effective fashion than is currently possible. Partial reorganizations along these lines can be seen as a means of maintaining the advantages of both small and large scales of operation.

Section VI: Concluding Remarks

The purpose of this interim report has been to introduce members of the Task Force to the financial inequities that exist in the rural school districts in New York State. We have placed these issues in context by providing historical as well as legal perspectives. And we have voiced our concern that a narrow reading of the Levittown decision could lead to even greater inequities for the rural population of the state.

At this writing our empirical work is clearly incomplete. Indeed, in Section III we argued that there are at least nine questions concerning policy for rural districts that are embedded in the Levittown decision. Of these nine, we have concentrated most of our attention on the question dealing with the alleged existence of costs that are peculiar to rural districts. Moreover, our answer to this question remains incomplete. In the months to come we will a) explore costs associated with three additional background factors and b) employ more refined categories of how districts spend their funds.

Given the incomplete nature of our empirical analyses, we have been reluctant to propose policy options. However, in the interest of prompting discussion and familiarizing members of the Task Force with some of the available options, we have proposed a number of alternate policies for consideration. To the extent that it was possible, we have based these on our empirical results to date, although we must admit that some of our proposals are based more on speculation over what we would expect to find if our analyses were more complete.

In addition to a full discussion of our empirical analyses, our final report will present a range of policy alternatives complete with an assessment

of the consequences of pursuing one alternative rather than another. To this end, we plan to work closely with the analysts at the Education Commission of the States who are responsible for conducting simulation analyses for the Task Force.

Section VII: Footnotes

[1]The Master Plan was enacted into law in 1947, revised in the 1956-58 period, and again revised in 1965. This portion of the Education Law authorizes the Commissioner of Education to study and make recommendations for the reorganization of school districts. Under the plan, all districts recommended for reorganization are named and notified of their particular status in the planning process. The Volume, Master Plan for School District Reorganization in New York State, Revised, The University of the State of New York, Albany, 1958, is a good source for the accomplishments under the Plan to that date.

[2]Article 37 of the Education Law authorizes the Commissioner of Education to define a given area as a central school district and, by order, lay the territory out. The process includes merger of the previously independent districts within that area into one central school district. While in earlier years, the districts consolidated were often common school units, the more recent centralizations have been of adjoining central or union free districts. The union free districts were originally created in the era before 1924.

[3]District superintendents worked with the schools under their supervision in matters of instruction, curriculum and school organization and administration. They served primarly to assist the State Education Department in carrying out policies and standards set up for the public schools. The number of district superintendents was consistently diminished as each assumed a larger territory, and as individual school districts appointed their own superintendents. Since the advent of the BOCES, the district superintendent has become the chief school officer of the BOCES district.

[4]BOCES serves the school districts of its area (excluding the large cities), and member districts share administrative and building costs. Each district annually enrolls pupils in BOCES courses, chiefly in vocational and special education, and pays for these services. State aid goes to both BOCES and subscribing districts to support the programs. There are limitations on the services offered by the BOCES, imposed by both regulations and fiscal policy.

[5]Board of Education, Levittown Union Free School District, et. al., Plaintiffs, and the Board of Education, City School District, Rochester, et.al., Plaintiffs-Intervenors, v Ewald B. Nyquist, as Commissioner of Education, et. al., Defendants.

[6]Rural school districts, expressing themselves through a new organization called the Rural Schools Program, cite needs and problems growing out of smallness, sparsity, inadequate aid for BOCES programs, rising costs of transportation, mandates to educate the handicapped, and inequities in the system of equalization and assessment.

[7]Twelve small high schools were involved in reorganizations in the period 1970-80. Other districts involved either did not operate high schools or were "receiving" districts. While the year 1969-70 showed considerable reorganization activity, the subsequent years brought forth very little substantial consolidation. A number of smaller central districts have been interested in mergers; a few have been proposed or attempted. In 1979 the Grand Gorge Central School was dissolved with its parts going to adjoining districts.

[8]San Antonio Independent School District v. Rodriquez

[9]See D. H. Monk, "The Impact of Scale on Administrative Behavior," paper to be presented to the annual meeting of the American Educational Research Association, April, 1981.

[10]Fisher and Shelter Island School districts are responsible for much of the variation fund for the small and sparsely settled districts.

[11]The effective aid ratio is defined as state transportation aid divided by total transportation expenditure. It can be thought of as the fraction of transportation costs that the state assumes.

[12]Non-allowed pupils are those students who live within a radius of 1.5 miles of their school. The state is unwilling to share in the cost of transporting these students.

[13]We are indebted to William Rasbeck, Superintendent of the Tully School System for bringing this aspect of isolation to our attention.

[14]Implicit in this argument is the presumption that some of the costs of the program are imposed locally. In other words, we are assuming that the state does not pay all of the costs.

[15]See, for example, Jonathan P. Sher, ed., Education in Rural America (Boulder, Colorado: Westview Press, 1977).